Michigan Department
of Transportation
5100H (10/07)

REQUEST FOR PROPOSAL

The Michigan Department of Transportation (MDOT) is seeking professional services for the project contained in the attached scope of services.

If your firm is interested in providing services, please indicate your interest by submitting a Proposal, Proposal/Bid Sheet or Bid Sheet as indicated below. The documents must be submitted in accordance with the latest "Consultant/Vendor Selection Guidelines for Service Contracts" and "Guideline for Completing a Low Bid Sheet(s)", if a low bid is involved as part of the selection process. **Referenced Guidelines are available on MDOT's website under Doing Business > Vendor/Consultant Services >Vendor/Consultant Selections.**

RFP SPECIFIC INFORMATION

☐ BUREAU OF HIGHWAYS ☑ BUREAU OF TRANSPORTATION PLANNING ** ☐ OTHER

THE SERVICE WAS POSTED ON THE ANTICIPATED QUARTERLY REQUESTS FOR PROPOSALS

☐ NO ☑ YES DATED 10/1/08 THROUGH 12/31/08

☐ **Prequalified Services** – See page ___ of the attached Scope of Services for required Prequalification Classifications.

☑ **Non-Prequalified Services** - If selected, the vendor must make sure that current financial information, including labor rates, overhead computations, and financial statements, if overhead is not audited, is on file with MDOT's Office of Commission Audits. This information must be on file for the prime vendor and all sub vendors so that the contract will not be delayed.

☐ **Qualifications Based Selection** – Use Consultant/Vendor Selection Guidelines

For all Qualifications Based Selections, the section team will review the information submitted and will select the firm considered most qualified to perform the services based on the proposals. The selected vendor will be contacted to confirm capacity. Upon confirmation, that firm will be asked to prepare a priced proposal. Negotiations will be conducted with the firm selected.

For RFP's that originate in Bureau of Transportation Planning only, a priced proposal must be submitted at the same time as, but separate from, the proposal. Submit directly to the Contract Administrator/Selection Specialist, Bureau of Transportation Planning **(see address list, page 2). The priced proposal must be submitted in a sealed envelope, clearly marked **"PRICE PROPOSAL."** The vendor's name and return address MUST be on the front of the envelope. The priced proposal will only be opened for the highest scoring proposal. Unopened priced proposals will be returned to the unselected vendor(s). Failure to comply with this procedure may result in your priced proposal being opened erroneously by the mail room.

For a cost plus fixed fee contract, the selected vendor must have a cost accounting system to support a cost plus fixed fee contract. This type of system has a job-order cost accounting system for the recording and accumulation of costs incurred under its contracts. Each project is assigned a job number so that costs may be segregated and accumulated in the vendor's job-order accounting system.

☐ **Qualifications Review / Low Bid** - Use Consultant/Vendor Selection Guidelines. See Bid Sheet Instructions for additional information.

For Qualification Review/Low Bid selections, the selection team will review the proposals submitted and post the date of the bid opening on the MDOT website. The notification will be posted at least two business days prior to the bid opening. Only bids from vendors that meet proposal requirements will be opened. The vendor with the lowest bid will be selected. The selected vendor may be contacted to confirm capacity.

☑ **Best Value** - Use Consultant/Vendor Selection Guidelines. See Bid Sheet Instructions below for additional information. The bid amount is a component of the total proposal score, not the determining factor of the selection.

☐ **Low Bid** (no qualifications review required - no proposal required.) See Bid Sheet Instructions below for additional instructions.

BID SHEET INSTRUCTIONS

A bid sheet(s) must be submitted in accordance with the "Guideline for Completing a Low Bid Sheet(s)" (available on MDOT's website). The Bid Sheet(s) is located at the end of the Scope of Services. Submit bid sheet(s) separate from the proposal, to the address indicated below. The bid sheet(s) must be submitted in a sealed manila envelope, clearly marked **"SEALED BID."** The vendor's name and return address MUST be on the front of the envelope. Failure to comply with this procedure may result in your bid being opened erroneously by the mail room and the bid being rejected from consideration.

PROPOSAL SUBMITTAL INFORMATION

REQUIRED NUMBER OF COPIES FOR PROJECT MANAGER 6	PROPOSAL/BID DUE DATE 3/13/09	TIME DUE 12:00 pm (Noon)

PROPOSAL AND BID SHEET MAILING ADDRESSES

Mail the multiple proposal bundle to the MDOT Project Manager or Other indicated below.

[✓] MDOT Project Manager   [ ] MDOT Other

Jennifer Osborne
425 W. Ottawa
P.O. Box 30050
Lansing, MI 48909

Mail one additional stapled copy of the proposal to the Lansing Office indicated below.

Lansing Regular Mail	OR	**Lansing Overnight Mail**
[ ] Secretary, Contract Services Div - B470 Michigan Department of Transportation PO Box 30050 Lansing, MI 48909		Secretary, Contract Services Div - B470 Michigan Department of Transportation 425 W. Ottawa Lansing, MI 48933
[✓] Contract Administrator/Selection Specialist Bureau of Transportation Planning B470 Michigan Department of Transportation PO Box 30050 Lansing, MI 48909		Contract Administrator/Selection Specialist Bureau of Transportation Planning B470 Michigan Department of Transportation 425 W. Ottawa Lansing, MI 48933

GENERAL INFORMATION

Any questions relative to the scope of services must be submitted by e-mail to the MDOT Project Manager. Questions must be received by the Project Manager at least four (4) working days prior to the due date and time specified above. All questions and answers will be placed on the MDOT website as soon as possible after receipt of the questions, and at least three (3) days prior to the RFP due date deadline. The names of vendors submitting questions will not be disclosed.

MDOT is an equal opportunity employer and MDOT DBE firms are encouraged to apply. The participating DBE firm, as currently certified by MDOT's Office of Equal Opportunity, shall be listed in the Proposal

MDOT FORMS REQUIRED AS PART OF PROPOSAL SUBMISSION

5100D – Request for Proposal Cover Sheet
5100G – Certification of Availability of Key Personnel
5100I – Conflict of Interest Statement

(These forms are not included in the proposal maximum page count.)

MICHIGAN DEPARTMENT OF TRANSPORTATION
URBAN MODEL IMPROVEMENT PROGRAM

REQUEST FOR PROPOSAL
for
BEST VALUE

Special notes pertaining to submission of Cost Proposal Sheet and Proposal Length
- For this Request for Proposals (RFP) only, do not submit the cost proposal sheets in a separate, sealed envelope as directed for Bid Sheets on form 5100H.
- Cost proposal sheets should be submitted to the MDOT Project Manager along with RFP proposal. The format of the cost proposal is indicated at the conclusion of this RFP. Questions about this process should be directed to Kathy Popoff at popoffk@michigan.gov.
- This RFP waives the 19-page limitation for proposals to allow for the integration of technical information.

I. Objective

The Urban Travel Analysis Unit (UTA), within the Statewide and Urban Travel Analysis Section, within the Bureau of Transportation Planning at the Michigan Department of Transportation (MDOT) is seeking a consultant to assist staff in establishing a model development technical manual and bring the Michigan small urban travel demand models (hereby referred to as "Michigan Small Urban Models") to a state of best practices in four step modeling. The consultant is responsible for working collaboratively with UTA staff in reviewing and recommending best practices for Michigan Small Urban Models and assisting in developing Michigan specific estimation parameters and model development technical manual.   This contract will entail joint discussion and work between the consultant and UTA staff. Open dialog between the consultant and UTA staff during the extent of this contract is imperative.

The objectives of the Urban Model Improvement Project (UMIP) are: to develop estimation parameters using the Michigan household travel survey data as inputs into the Michigan Small Urban Models; to incorporate best practices in MDOT's modeling process based on the complexity and needs of the model area; and develop documentation that will serve as a Model Development Technical Manual for Michigan Small Urban Models.

As proof of concept, the Bay-Midland-Saginaw model and one other Michigan Small Urban Model (Benton Harbor, Battle Creek, Niles, or Jackson) will be redeveloped and used to test the procedures, process, and parameters developed under this contract. The technical manual and estimation parameters are to be developed by a joint effort between UTA staff and the consultant.

The Consultant will be responsible to:
- Evaluate best practices for each step in the modeling process given the size and complexity of the Michigan Small Urban Models
- Provide recommendations on incorporating these best practices into Michigan Small Urban Models
- Develop Model Structure(s) for Michigan Small Urban Models
- Respond to questions pertaining to consultant's evaluations, recommendations, and any other general questions elicited by UTA staff
- Develop a technical manual on developing Michigan Small Urban Models with input from UTA staff
- Provide the methodology and directions to develop estimation parameters based on the Michigan household travel survey
- Review and comment on the work done by UTA staff
- Develop Transit Model for Bay-Midland-Saginaw
- Test the developed technical manual and estimation parameters by redeveloping the Bay-Midland-Saginaw model and one other Michigan Small Urban Model

UTA staff will be responsible for:
- Data development, analysis, and estimation under guidance of the consultant
- Providing the network, Traffic Analysis Zones (TAZ), and socio-economic data for each of the two models that are to be developed and calibrated as a test of the new processes
- Reviewing and commenting on technical documents provided by consultant

Documentation of all work and decisions are necessary at each step as a record for current and future staff to understand the process and decision making that was involved to complete the final products. The products of this effort include the following:
- Model Development Technical Manual
- Full documentation of final decisions for each task
- General model structure(s) for Michigan Small Urban Models
- Model estimation parameters based on Michigan Household Travel Survey Data
- Transit model for Bay-Midland-Saginaw
- Development and testing of estimation parameters, model structure, and technical manual for Bay-Midland-Saginaw and one other Michigan Small Urban Model
- TransCAD 5.0 GISDK add-ins (**consultant must have own license for TransCAD 5.0**)

It is the intention of UTA staff to be heavily involved with this entire process working on certain aspects of the project under guidance of the consultant. The project will not be done solely by the consultant and handed over to UTA staff. The consultant will be required to provide explanations and answer staff questions via oral (teleconference) and written documentation.

II. Background

In Michigan, UTA staff is responsible for the development, calibration, validation, application, and maintenance of the Michigan Small Urban Models. Small urban Metropolitan Planning Organizations (MPOs) are defined as those areas with populations between 50,000 and 200,000. The MPO staff is responsible for providing the socio-economic data used in model development. Currently there are eight Michigan Small Urban Models.

The five Transportation Management Areas (TMAs) are responsible for the development of their own travel demand models and are not part of this contract. A map of the model boundaries is attached as a reference (see **Appendix A)** indicating the location of the Michigan Small Urban Models and TMA model areas.

Travel Demand Models are being utilized for a variety of planning efforts including but not limited to; MPO project selection for long-range transportation plans (LRTP), project development, detour analysis, air quality conformity, and increasingly for system operations and roadway construction "work zone" management. It is therefore vital that the travel demand models be brought up to best practices.

The eight Michigan Small Urban Models maintained by MDOT UTA staff are all gravity based, capacity restrained equilibrium three-step models without a mode choice component. The models have similar structures, but use different methods and data sources. All of the models utilize a single capacity calculator. Between the models there are three different methods for calculating speeds and slightly varying auto occupancy rates. For trip purposes, each model has at least home-based work, home-based other, and non-home-based trips. Two of the models have an additional trip purpose, one has a home-based school trip, and one has separate trip purposes for external-internal/internal-external trips. Seven of the Michigan Small Urban Models have a daily assignment; one model has a time-of-day (peak period) assignment.

Each of the eight Michigan Small Urban Models varies in size and geographic character. Five of the model areas (referenced to by city name, Battle Creek, Holland, Benton Harbor, Niles, and Muskegon) contain only one large city and surrounding area with varying development. Two model areas (Kalamazoo and Jackson) are large cities with model boundaries to the county line. One model is a regional model containing three medium size cities (Bay City/Saginaw/Midland) and three counties. All the areas have at least a fixed route transit system, varying in number of routes, but none are modeled. All of the MPO areas, except two, have air quality conformity requirements. All models are developed, operated, and maintained in a TransCAD platform. Table 1 shows the size and population of the eight Michigan Small Urban Models.

Table 1: Small Urban Model Size and Estimated Population in 2005

Small Urban Model	Square Miles	Estimated Population in 2005*
Battle Creek	217.19	94,590
Kalamazoo	579.38	242,910
Holland-Zeeland	284.05	127,513
Muskegon	548.93	218,979
Benton Harbor/St. Joseph	177.14	85,463
Niles-Buchanan-Cass	228.44	51,774
Jackson	722.35	162,700
Bay-Saginaw-Midland	1790.07	398,520

*Source: MDOT Statewide and Urban Travel Analysis Unit

Michigan has developed, operated, and maintained travel demand models for Michigan's small MPOs since the mid-1980s. Over the years, there have been changes in staff, limited documentation, new modeling approaches, and a household travel survey completed in Michigan. As UTA staff begins to document the process and procedures used in model building and training staff, it presents the opportunity to incorporate best practices and update estimation parameters as well as provide a solid foundation for training. This project provides an opportunity to evaluate Michigan's current model development procedures, incorporate best practices and Michigan household survey data, and document the process.

In 2004/2005, a household travel survey was completed for the entire state of Michigan. Basic demographics and 48 hours of weekday travel information including destination, mode of travel, and trip purpose were collected for every member (including children) of over 14,280 households. Michigan was divided into seven geographic sampling areas, with a minimum of 2,040 households collected per area. A map of the sample areas is attached as **Appendix B**. The seven geographic sample areas are as follows:

1. Southeast Michigan Council of Governments (SEMCOG) (Seven counties of the Detroit Area)
2. Transportation Management Areas (TMAs) (Urban area population over 200,000 - Grand Rapids, Flint, and Lansing)
3. Small Urban Modeled Areas (Urban area population between 50,000 and 200,000)
4. Small Cities (Population of 5,000-50,000 outside small urban and TMAs)
5. Southern Lower Peninsula Rural
6. Northern Lower Peninsula Rural
7. Upper Peninsula Rural

The sampling was stratified by household size, workers, and vehicles available determined from the distribution of households reported in the Census 2000 Public-Use Microdata Samples (PUMS).

All of the eight Michigan Small Urban Models were combined into one sampling area, referred to as Michigan Small Urban Models in **Figure 2**. An additional model area, Traverse City, was also included in the Michigan Small Urban Models sample but will not be part of this contract. The final report and more detailed information on the household travel survey (MI Travel Counts project) can be found at the following website: http://www.michigan.gov/mdot/0,1607,7-151-9615_51690---,00.html

III. Consultant Prequalification

This project does not require the prime consultant to be pre-qualified by MDOT.

IV. Project Scope

The following is a general outline of the tasks necessary to achieve the project goals.

1.0   Model Structure Development

Task Description: Evaluate current best practices and determine an overall model structure(s) and elements for the Michigan Small Urban Models. The consultant will be required to meet with UTA staff at MDOT offices to evaluate all aspects of four step modeling and arrive at a final structure(s).

The consultant will work with UTA staff in developing a model structure(s) that can be applied to the eight Michigan Small Urban Models. Development of the model structure will need to take into account the differing sizes, populations, and characteristics of the eight areas. During this task, the models may need to be divided into groupings based on their levels of complexity. UTA recognizes that groupings of models may require slightly different model structures by inclusion or exclusion of certain components, such as time of day. The consultant, working with UTA staff, will determine these groupings and how many model structures will need to be developed or one that can be modified for specific models. UTA staff will provide the necessary information needed on the current models to accomplish this task, including but not limited to: current models, parameters, and structures.

1.1   Best Practices for Inclusion in Michigan Small Urban Models

1.1.1   Trip Generation - Evaluate options and recommend method
Provide options for performing trip generation, trip purposes, and the data inputs that would be necessary. Evaluate best practices for trip generation procedures for Michigan Small Urban Models that are appropriate for the complexity of the eight models or groupings of models. Provide a recommendation on the appropriate procedures and sub-models that prepare the data input. Determine the data sources for productions and attractions.

1.1.2   Trip Distribution - Evaluate options and recommend method
Evaluate best practices for trip distribution procedures for Michigan Small Urban Models that are appropriate for the complexity of the eight models or groupings of models. Consider the benefits and difficulties of using destination choice, gravity model, and/or other methods. Provide a

recommendation on the distribution method that best fits the eight models or groupings of models.

1.1.3 Mode Choice - Evaluate options and recommend method

Evaluate incorporating a mode choice component into the Michigan Small Urban Models. Provide a recommendation of where and when in the process mode choice should be considered given the levels of complexity of the eight models or groupings of models.

Evaluate the best practices for mode choice procedures and the data inputs needed for Michigan Small Urban Models that are appropriate for the complexity of the eight models or groupings of models. Provide a recommendation on the mode choice method that best fits the eight models or groupings of models.

Evaluate the alternative practice of removing non-auto trips for models or groups of models that do not warrant a mode choice component. Provide a recommendation that best fits the eight models or groupings of models.

1.1.4 Time-of Day - Evaluate options and recommend method

Evaluate incorporating a time-of-day component into the Michigan Small Urban Models. Provide a recommendation of where and when in the process time-of-day should be considered given the levels of complexity of the eight models or groupings of models.

Evaluate the best practices for time of day procedures and the data inputs needed for Michigan Small Urban Models that are appropriate for the complexity of the eight models or groupings of models. Provide a recommendation on a time-of-day method that best fits the eight models or groupings of models.

1.1.5 Assignment methods - Evaluate options and recommend method

Evaluate best practices for assignment procedures for Michigan Small Urban Models that are appropriate for the complexity of the eight models or groupings of models. Provide a recommendation on the appropriate procedures.

1.1.6 Feedback loop - Evaluate options and recommend method

Evaluate incorporating feedback loops in the Small Urban Model process. Provide pros and cons of inclusion and when and where to include the feedback loop.

1.1.7 Transit - Evaluate options and recommend method

A transit model will be developed for the Bay-Midland-Saginaw travel demand model; however, evaluating the needs and benefits of incorporating transit into the other seven models will be a requirement of this contract as well.

Evaluate the need, benefits, and challenges associated with incorporating a transit component into the Michigan Small Urban Models. Provide a recommendation of which model areas to apply transit, where in the model process to apply transit, and how to incorporate a transit model given the needs of the area. Indicate the data that would be required.

1.1.8 Truck Component- Evaluate options and recommend method
Evaluate the need, benefits, and challenges associated with incorporating a truck component into the Michigan Small Urban Models. Provide a recommendation of which model areas to apply truck models, where in the model process to apply truck model, and how to incorporate a truck component given the needs of the area. The consultant shall review the local data available for trucks and determine data needs and availability.

Deliverables for Task 1.1:
- Meeting with UTA staff for discussion of model area needs
- Technical document incorporating the evaluations, recommendations, and data requirements for tasks 1.1.1 thru 1.1.8
- Meeting with UTA staff for discussion and review of technical document

1.2 Complete model structure
Task Description: Complete proposed model design(s). Incorporate the final decisions from task 1.1 into a complete model structure with flow chart. List as well components that are not part of tasks 1.1 - 1.7 (such as externals) to provide a description of each step for a complete model.
Deliverables for Task 1.2:
- Discussion with UTA staff
- Documentation of agreed upon model structure(s) with description of each step
- Model flow chart

2.0 Evaluate Household Survey Data
Task Description: Evaluate the household survey data to determine the model estimations that will be possible using the household survey. Conduct a statistical analysis to determine if households from other sample areas in Michigan can be included to enhance the dataset.

Determine if it is applicable to apply weighting factors to the data and ascertain the methodology to be utilized. Review and determine if households should be grouped into one or many sets in model estimation either by model size, location, or another measure. Provide recommendations and implications of combining the surveys and/or using them as one data set. Michigan Small Urban Model sample size and estimated number of households in 2005 is indicated in **Table 2**.

**Table 2: Michigan Small Urban Model Area Sample Sizes
and Estimated Households in 2005****

Small Urban Model	Households surveyed	Percent of sample	Households in 2005	Percent of Households
Battle Creek	97	4.71%	37,905	6.81%
Kalamazoo	291	14.14%	92,127	16.54%
Holland-Zeeland	167	8.11%	44,045	7.91%
Muskegon	355	17.25%	83,618	15.02%
Benton Harbor/St. Joseph	154	7.48%	31,908	5.73%
Niles-Buchanan-Cass	74	3.60%	20,703	3.72%
Jackson	194	9.43%	59,789	10.74%
Bay-Saginaw-Midland	554	26.92%	156,205	28.05%
Traverse City*	172	8.36%	30,587	5.49%
Total	**2058**	**100%**	**556,887**	**100%**

*Included in the sample but not part of the update effort.
**Source: MDOT Statewide and Urban Travel Analysis Unit

Provide direction and guidance on assembling the data set for performing model estimation analysis based on result of task 1.1. Determine variables that need to be appended to the dataset. Estimation analysis for each model step will be conducted in later tasks, for example trip generation will be conducted under Task 6.0.

Deliverables for Task 2.0:
- Discussion with UTA staff
- Technical paper describing:
  - Determination of model estimations possible with household survey data
  - Results of statistical analysis and recommendations to add additional households to the small urban data set
  - Recommendation of weighting method
  - Recommendation and method to assemble the data for analysis including need of additional variables

3.0 Network Development
3.1 Network Development
Task Description: Develop a technical manual to determine the roads to be included in the network in terms of: coverage, density, and local conditions, as well as inclusion of border roads and determining location of external stations.

Models currently include all roads that are federal aid eligible with local roads as needed for connectivity. The current rule of thumb is to include, at a minimum, all roads with a National Functional Class of Collector and above.

Deliverables for Task 3.1:
- Discussion with UTA staff
- Technical paper describing:
  - Roads to include in the network based on factors such as coverage, density, and local conditions

   o Establishing external stations

3.2 Capacity Calculator

Task Description: Review the assigned capacities from the capacity calculator for reasonableness in the Michigan Small Urban Models. Recommend necessary changes in applying the capacity calculator to Michigan Small Urban Models and/or a different method of determining capacity. If necessary, develop an alternative method of determining capacity, implemented in a GISDK program and/or look-up table.

All eight models currently use a GISDK capacity calculator program developed for the Lansing TMA travel demand model that encompasses three counties (Clinton, Eaton, and Ingham) and has an estimated 2005 population of 454,668.   The resulting link capacities are used in equilibrium assignment and the volume to capacity ratios, which MPOs use in determining network deficiencies for long-range plans.

Deliverables for Task 3.2:
- Discussion with UTA staff
- Technical paper describing:
  - Review of the 2006 capacity calculator as it is applied to the Michigan Small Urban Models
  - Recommended method of determining capacity
  - If necessary, develop alternative method of determining capacity for the Michigan Small Urban Models.

3.3 Free-Flow Speed

Task Description: Determine best practices for free-flow speed estimation for Michigan Small Urban Models that addresses the levels of complexity of the eight models or groupings of models. Provide a recommendation on the free-flow speeds that best fits the eight models or groupings of models.

Deliverables for Task 3.3:
- Discussion with UTA staff
- Technical paper describing:
  - Evaluation of best practices
  - Recommendation on the free-flow speed estimation method that best fits the eight models or groupings of models, including data needs.

3.4 Terminal Times

Task Description: Determine best practices for incorporation of terminal times in the Michigan Small Urban Models that addresses the levels of complexity of the eight models or groupings of models. Provide a recommendation on the use of terminal times in the eight models or groupings of models.

Deliverables for Task 3.4:
- Discussion with UTA staff
- Technical paper describing: Evaluation and recommendation of using terminal times in Michigan Small Urban Models

4.0 TAZ Development
4.1 TAZ Structure
Task Description: Develop technical manual on establishing TAZs and numbering system, which takes into account the levels of complexity of the eight models or groupings of models.

Deliverables for Task 4.1:
- Discussion with UTA staff
- Technical paper describing: Establishing TAZs and numbering systems

4.2 Centroid Connectors
Task Description: Develop technical manual on establishing centroid connectors and centroid placement, which takes into account the levels of complexity of the eight models or groupings of models.

Deliverables for Task 4.2:
- Discussion with UTA staff
- Technical paper describing: Establishing centroid connectors and centroid placement

5.0 External Travel
Task Description: Recommend and develop procedures and data for handling external trips. Evaluate best practices for determining base year externals and forecasting external trips. Provide recommendations and steps for establishing base externals and method of forecasting. Evaluate and recommend best practices for distributing external-external trips in a model and balancing or incorporating the internal-external/external-internal trips with the internal-internal trips. Determine if the Michigan household travel survey data is sufficient for developing external trips. Provide a methodology and directions to UTA staff on preparation and application of data in developing external trips.

Deliverables for Task 5.0:
- Discussion with UTA staff
- Review data produced by UTA staff from household survey using agreed upon methodology.
- Technical paper describing:
  - Methodology to analyze household travel survey data for externals
  - Procedures for establishing base and forecasting external trips
  - Procedures to distribute external-external trips
  - Procedures to incorporate external-internal/internal-external trips in the modeling process.

6.0 Trip Generation
Task Description: Based on the chosen method of trip generation in Task 1.1, develop a technical manual of necessary estimation parameters for performing trip generation. The consultant will be required to meet with UTA staff at MDOT office.
6.1 Trip Purposes

Task Description: Evaluate best practices for determining trip purposes for Michigan Small Urban Models. Recommend trip purposes to use in Michigan Small Urban Models which take into account the levels of complexity of the eight models or groupings of models. Determine the socio-economic data needed to develop each trip purpose. Once the trip purpose and data needs are determined, UTA staff will code the Michigan household travel survey data, and the consultant will review and evaluate for reasonableness using consultant's Quality Assurance/Quality Control Plan.

Deliverables for Task 6.1:
- Discussion of Trip Purposes with UTA staff
- Technical paper describing:
  - Recommendation of trip purposes
  - Data requirements for each purpose and sources for data
  - Review data analysis completed by UTA staff

6.2   Productions

Task Description: Develop detailed methodology for analyzing and developing model estimation parameters for trip productions utilizing the Michigan household survey data. UTA staff will use the methodology to develop the estimation parameters, under the guidance of the consultant. Consultant will review work done by UTA staff and participate in conference calls to answer questions from staff during the development of estimation parameters. This task will require extensive discussion and review with UTA staff.

Deliverables for Task 6.2:
- Discussion of recommended method with UTA staff
- Technical paper describing: Detailed steps of data analysis to estimate trip production parameters
- Review data analysis completed by UTA staff

6.3   Attractions

Task Description: Develop detailed methodology for analyzing and developing model estimation parameters for trip attractions. UTA staff will use the methodology to develop the estimation parameters, under the guidance of the consultant. Consultant will review work done by UTA staff and participate in conference calls to answer questions from staff during the development of estimation parameters. This task will require extensive discussion and review with UTA staff. Determine the data sources for attractions.

Deliverables for Task 6.3:
- Discussion of recommended method with UTA staff
- Technical paper describing: Detailed steps of data analysis to estimate trip attraction parameters
- Review data analysis completed by UTA staff

6.4   Variable Forecasting

Task Description: Evaluate best practices for forecasting data inputs and data preparation to perform trip generation. Recommend and develop the method and

process for developing and forecasting future model input data (i.e. household distribution model, auto distribution model, workers and other variables).

UTA staff will use the methodology to develop the distribution models (i.e. household, auto, etc) under the guidance of consultant. Consultant will review work done by UTA staff and participate in conference calls to answer questions from staff during the development of estimation parameters. This task will require extensive discussion and review with UTA staff.

Deliverables for Task 6.4:
- Discussion of recommended method with UTA staff
- Technical paper describing: Detailed steps of developing forecast models for future data inputs
- Review data analysis completed by UTA staff

6.5 Special Generators

Task Description: Determine best practices for incorporating special generators into the modeling process. Develop a technical manual on determining when to apply special generators, how to incorporate into trip generation, and where to apply special generators.

Deliverables for Task 6.5:
- Technical paper describing:
  - Identification of special generators
  - Trip generation/estimation for special generators
  - Incorporating special generators into model estimation
- Discussion with UTA staff

6.6 Balancing

Task Description: Evaluate best practices for balancing trips after trip generation is performed taking into account external trips and special generators. Develop technical document on balancing trips in the modeling process.

Deliverables for Task 6.6:
- Technical paper describing: Detailed steps on balancing trips, including externals and special generators.
- Discussion with UTA staff

6.7 Technical Manual

Task Description: Develop a technical manual for performing trip generation.
Deliverables for Task 6.1:
- Technical manual describing: Steps to perform trip generation

7.0 Distribution

Task Description: Based on the chosen method of distribution in Task 1.1, develop a technical manual for performing trip distribution. Develop detailed methodology for analyzing and developing model estimation parameters for trip distribution step.

UTA staff will use the methodology to develop the estimation parameters, under the guidance of the consultant. Consultant will review work done by UTA staff and participate in conference calls to answer questions from staff during the development of estimation parameters.

Deliverables for Task 7.0:
- Discussion of recommended method with UTA staff
- Technical paper describing: Steps to perform trip distribution
- Technical paper describing: Detailed steps of data analysis to estimate trip distribution parameters
- Review data analysis completed by UTA staff

8.0 Mode Choice

8.1 Mode Choice Methodology

Task Description: Based on decisions concerning mode choice in Task 1.1, develop a detailed mode choice technical manual on integrating a mode choice component into the Michigan Small Urban Models which takes into account the levels of complexity of the eight models or groupings of models. The report shall provide details on how to incorporate a mode choice component into the Michigan Small Urban Models.

UTA staff will use the methodology to develop the mode choice component, under the guidance of the consultant. Consultant will review work done by UTA staff and participate in conference calls to answer questions from staff during the development of mode choice component.

Deliverables for Task 8.1:
- Technical paper describing:
  - Incorporating mode choice component
  - Data needed to perform component
  - Detailed steps of data analysis to estimate modal choice parameters
- Discussion of method with UTA staff
- Review data analysis completed by UTA staff

8.2 Auto Occupancy Rates - Methodology/Technical Manual

Task Description: Develop a technical manual for applying auto occupancy in the model process and a method of applying the rates which takes into account the levels of complexity of the eight models or groupings of models (Rates at household or TAZ levels or by trip length, etc.). Develop detailed methodology for analyzing and developing auto occupancy rates using Michigan household travel survey data.

UTA staff will use the methodology to develop the auto occupancy rates, under the guidance of consultant. Consultant will review work done by UTA staff and participate in conference calls to answer questions from staff during the development of the auto occupancy rates.

Deliverables for Task 8.2:

- Discussion of recommended method with UTA staff
- Technical paper describing: Application of auto occupancy rates in the model process
- Technical paper describing: Detailed steps of data analysis to determine auto occupancy rates
- Review data analysis completed by UTA staff

9.0   Transit

Task Description: Based on decisions concerning transit in Task 1.1, develop a technical manual for adding a transit component to small urban model which takes into account the levels of service and needs of the MPOs. This report shall provide the detail necessary to incorporate this step, along with the data requirements. The consultant will work in conjunction with UTA staff to develop transit network and attributes for the Bay-Midland-Saginaw model.

Deliverables for Task 9.0:
- Technical paper describing:
  - Developing a Transit component
  - Data needed to perform step
- Discussion of recommended method with UTA staff

10.0   Truck Component

Task Description: Based on decisions concerning a truck component in Task 1.1, develop a detailed technical manual on developing and integrating a truck component into the Michigan Small Urban Models which takes into account the levels of complexity of the eight models or groupings of models. The consultant shall review the local data available for trucks and determine data needs and availability. Develop a truck component that may be applied to all the Michigan Small Urban Models.

Deliverables for Task 10.0:
- Technical paper describing:
  - Developing and incorporating truck component
  - Review of data available and data needed
- Discussion of method with UTA staff
- Develop truck component

11.0   Time-of-Day

Task Description: Based on the decisions made in Task 1.1, develop a technical manual for incorporating a Time-of-Day component into the Michigan Small Urban Models which takes into account the levels of complexity of the eight models or groupings of models. Develop detailed methodology for analyzing and developing model estimation parameters for Time-of-Day step.

UTA staff will use the methodology to develop the estimation parameters, under the guidance of the consultant. Consultant will review work done by UTA staff and participate in conference calls to answer questions from staff during the development of estimation parameters.

Deliverables for Task 11.0:
- Discussion of recommended method with UTA staff
- Technical paper describing:
  - Incorporating Time-of-Day
  - Data needed to perform step
- Technical paper describing: Detailed steps of data analysis to estimate Time-of-Day parameters
- Review data analysis completed by UTA staff

12.0   Assignment Method

Task Description: Based on decisions made in Task 1.1, develop technical manual for performing assignment for auto, truck, and transit. Determine an appropriate method for calibrating highway volume delay functions (VDF) for the Michigan Small Urban Models which takes into account the levels of complexity of the eight models or groupings of models.

Deliverables for Task 12.0:
- Discussion with UTA staff
- Technical paper describing:
  - Performing assignments
  - Calibrating the volume delay functions
  - Steps of data analysis to determine VDFs

13.0   Validation & Applications

13.1 Validation

Task Description: Work with UTA staff to develop specific validation criteria for each modeling step for the Michigan Small Urban Models which takes into account the levels of complexity of the eight models or groupings of models.   MDOT has validation standards for assignment but wishes to develop validation criteria for the other model steps.

Determine the data needed for validation and the procedures for processing the data. Provide troubleshooting recommendations for each step of the model process with detailed explanations on possible ways to correct the problems.

Deliverables for Task 13.1:
- Discussion with UTA staff
- Technical paper describing:
  - Validation criteria at each step
  - Data needed to perform calibration and validation
  - Detailed methodology for processing the data
  - Troubleshooting technical manual and recommendations
  - Procedure of summarizing model results and compare to validation criteria

13.2 Model Applications

Task Description: Develop a GISDK application to report model results and the comparison to validation standards.

Develop a GISDK application to report model results in the form of VMT, VHT, and speeds, by county and by national functional class (NFC).

Develop GISDK programs to perform applications used in the Michigan Small Urban Models, such as trip generation, distribution, mode choice, as needed and determined by UTA staff during the project. Documentation for each application developed is required.

Development of applications outside TransCAD 5.0 requires approval by project manager. All applications must be compatible with TransCAD 5.0.

Deliverables for Task 13.2:
- Discussion with UTA staff
- Program to report model results and the comparison to validation standards
- Technical paper documenting validation program
- Program to report model outputs by VMT, VHT, and Speed by county by NFC
- Technical paper documenting program
- Development of other programs as needed and corresponding documentation

14.0   Testing of Technical Manual and Procedures

14.1 Testing Technical Manual & Procedures (Two Models)

Task Description: Redevelop the Bay-Midland-Saginaw model and one other Michigan Small Urban Model (Benton Harbor, Battle Creek, Niles, or Jackson) using the new technical manual's methodologies, estimation parameters, and procedures, developed for Tasks 1.0 through 12.0, as test-of-concept. Selection of the second Michigan Small Urban Model for development will be done in conference with UTA staff. UTA staff will provide the consultant complete base and future year highway and transit networks, TAZs, socio-economic data, traffic count data, and any other data required and available. Document the process and results of testing.   The final product should be two calibrated/validated models developed with the technical manual and estimation parameters created during the course of this contract.

Deliverables for Task 14.1:
- Two calibrated and validated models using technical manual developed in Tasks 1.0-12.0
- Documentation on the testing procedures and results
- Validation results and model output reports
- Step by step manual to run the models

14.2 Training

Task Description: The consultant will instruct UTA staff on the proper procedure to run both Michigan Small Urban Models and analyze the output. The consultant will be required to meet with UTA staff at MDOT offices.

Deliverables for Task 14.2:
- Training session on how to run the models

V. Travel

The consultant at a minimum will be required to be on site at the MDOT office for meetings for task 1.0, task 6.0, and training in task 14.2.

VI. Project Schedule

Target Date	Required Activity
June 17, 2009	Project Begins- Anticipated
March 30, 2011	Project Complete-Anticipated

NOTE: MDOT's new fiscal year begins on October 1 of each year. Pending notification of funding for FY 2010, it may be necessary to temporarily suspend work on the last day of the fiscal year (September 30). Work would resume when funding is in place. Specific language referring to State Planning and Research (SPR) funds will be in the contract.

VII. Payment Schedule

Compensation for this project shall be on a **milestone** basis. Compensation shall be divided into payments for the completion of a portion of the services (deliverables) by task. An example of a task milestone would be:

Conference Call (Discussion with UTA Staff)	**10%**
Draft Technical Paper	**20%**
Review of Data from UTA Staff	**20%**
Finalized Technical Paper & QA/QC	**35%**
Final Acceptance of Completed Task	**15%**
Total Service	**100%**

The MDOT Project Manager may authorize payment if a milestone is delayed due to circumstances beyond the consultant's control.

All billings for services must be directed to the MDOT Project Manager. Please note: Labor supporting documentation must be submitted with your billing for all labor performed on a milestone basis project.

The actual milestone payment schedule will be determined after the selection has been made and will be included in the contract with the selected consultant. The selected consultant is to provide to MDOT a detailed cost breakdown for each task including labor, overhead, direct expenses, and fixed fees, which will be utilized to develop the payment schedule. The same cost breakdown will be required for subconsultants.

Payment to the consultant for services rendered shall not exceed the maximum contract amount unless an increase is approved in accordance with the contract with the Consultant.

VIII. Deliverables

Progress reports and deliverables shall be submitted to the MDOT Project Manager in Microsoft Word format (compatible with 2002 version) for ease of distribution, review and comment by the MDOT project team. Progress reports and deliverables shall be submitted by **12:00 PM EST** of the agreed upon due date to:

Jennifer Osborne, Transportation Planner
Michigan Department of Transportation
Van Wagoner Building
425 W. Ottawa Street
P.O. Box 30050
Lansing, MI 48909
osbornej@michigan.gov
(517) 373-1989

IX. Subcontracting of Contract Work

A maximum of 40% of all contracted work can be conducted by a sub-consultant.

X. Changes in Staff

Changes in staff that may occur during the course of the project must be approved by MDOT's Project Manager.

XI. Responsibilities

The roles and responsibilities of the consultant and UTA staff will be solidified when the final workplan is developed.

1. The MDOT Project Manager shall be the official MDOT contact person for the consultant. The consultant must address or send a copy of all correspondence to the MDOT Project Manager. This includes all sub-consultant correspondence. The MDOT Project Manager shall be aware of all communications regarding the project.

2. The consultant shall notify MDOT and obtain MDOT Project Manager's approval of all proposed sub-consultants for all work that will not be performed directly by the consultant.

3. As work progresses, the consultant will present all deliverables for review by UTA staff. Consultant will address UTA staff comments in a document.

4. Deliverables will be considered complete and acceptable when the MDOT Project Manager has given final approval in writing.

XII. Content of Proposal

Do not simply reiterate the RFP Scope of Services in the submitted proposal. Proposals should include the following, not necessarily in the order presented:

- Scope of work, proposed approach, and workplan including timeline.
- Team Qualifications: Proposals should list all staff, their role in the project, their hours for each task, work location, and a resume of each team member that will be part of this contract team.
- Past experiences as it relates to scope of work. The consultant should include only the experience of personnel assigned to this project and clearly state role in project.
- Three References of the consultant, including contact person and phone number.
- Price Proposal for each task and summary.
- A plan and/or checklist to ensure quality control and quality assurance for the project in documentation review and estimation development.
- An example of a complete technical document composed by the primary team member(s) that will be responsible for writing the documentation for this project. The technical document can be a model development technical manual, survey data analysis, manuals, or a similar project. Please do not submit policy documents or long-range transportation plans. **Consultant may submit one stand alone copy of the document if it is more than 10 pages long rather than attached to each copy of the proposal.**

XIII. Scoring Criteria

The proposals will be evaluated based on the following scoring criteria to determine a short list of consultants who will be asked to interview. The top scoring consultants will be invited to proceed to the interview/presentation process. Do not simply reiterate the RFP Scope of Services in the submitted proposal.

1. **Understanding of Services:** 45 Points.
   The proposal will be evaluated on the level of understanding of the scope of services as presented in this RFP. The consultant will also be evaluated on their unique approach to achieving the goals of the project, the comprehensiveness and cohesiveness of the proposed approach, and the techniques to be used within the framework of best practices in travel demand modeling. Evaluation will also be on the allocation of time and staff hours on specific tasks.

2. **Qualifications of Team:** 30 Points.
The professional personnel will be evaluated on the ability to meet the terms of the RFP relative to having the qualifications needed to successfully complete the project. The score will be based on education and overall experience of the individual professional personnel assigned to the project, as specified in the proposal, including sub-consultants, as stated in their attached resumes. The professional personnel who work on the project must be the same individuals identified in the proposal.

3. **Relevant Past Performance:** 25 Points.
The proposals will be evaluated on specific prior experience and work applicable to this scope of services. The consultant should include only the experience of personnel assigned to this project and their roles clearly stated. This also includes the prospective consultant's experience working in a cooperative team environment with other consultants and public agencies. References of consultant and sub-consultants will be checked.

This project requires a large amount of documentation and a writing sample is required. The writing sample will be evaluated for clarity and writing style. This must be a technical document written by the primary team member(s) that will be responsible for writing the documentation in this project. The technical document can be a model development technical manual, survey data analysis, manuals, or a similar project. Please do not submit any policy documents such as Long Range Transportation Plans.

4. **Quality Assurance/Control:** 10 Points.
The proposal will be evaluated on a plan or checklist to ensure quality control and assurance for the project's documentation review, data development, and modeling. This includes methods to ensure quality in data analysis, data checks, and document version control.

5. **Location:** 5 Points.
The consultant selection criteria will include a consideration of the amount of work that will be performed in Michigan, following the standard MDOT listed here:

Percentage of Work to be done in Michigan	Score
95% to 100%	5
80% to 94%	4
50% to 79%	3
25% to 49%	2
10% to 24%	1
Less than 10%	0

6. **Price:** <u>25 Points.</u>
  After scoring the proposal with the above criteria (1-5), the total price of the proposal will be scored using a scale determined by the MDOT selection team.

  Total Points: <u>140 Points.</u>
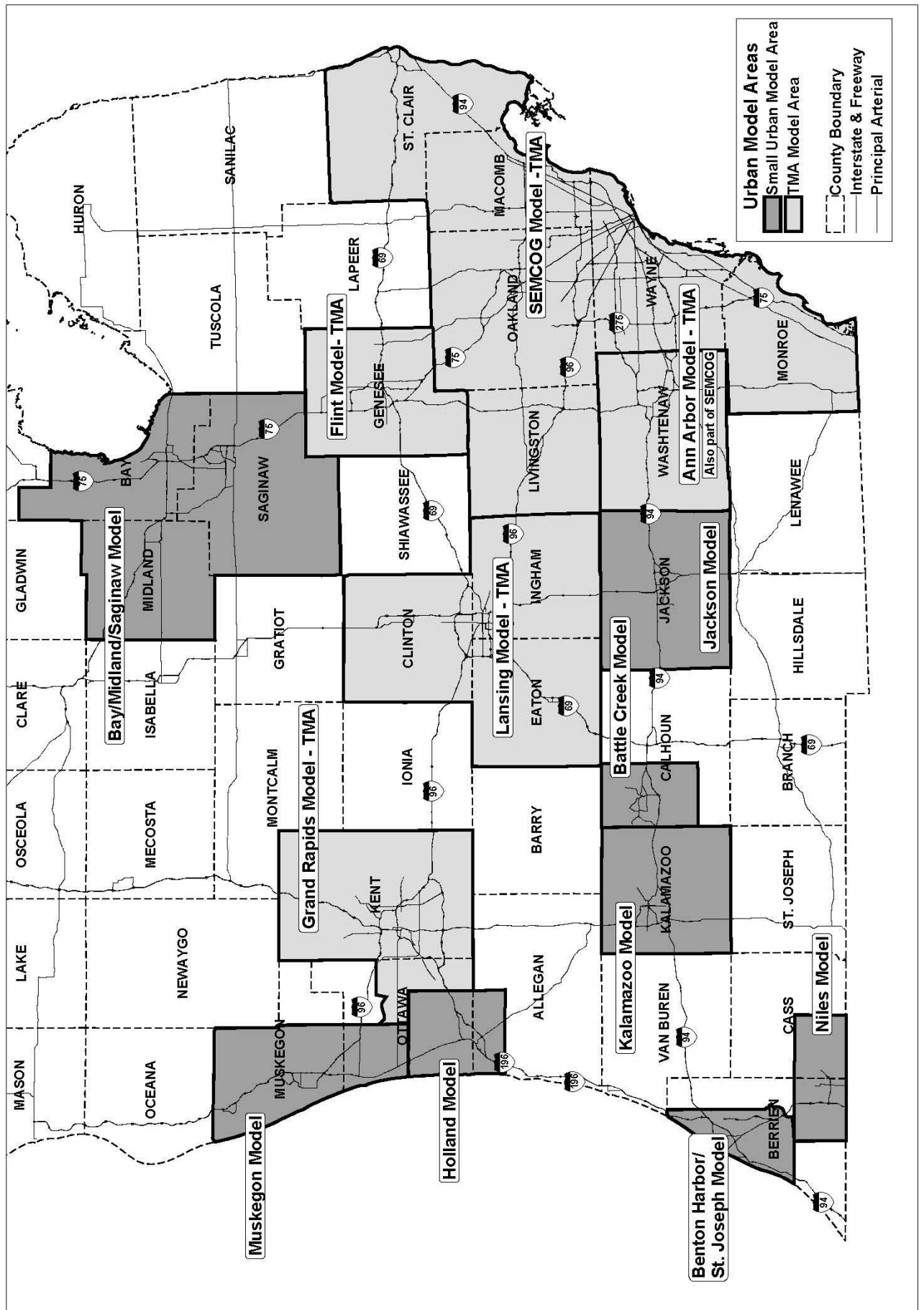

XIV. Presentation/Interview

The top scoring consultants will be invited to an interview and to provide a presentation to the MDOT selection team. It may be determined that an interview and presentation are not necessary after a complete review of the proposals submitted, and at the discretion of the MDOT Project Manager.

The interview and presentation will provide an opportunity for the consultant to discuss in more detail their qualifications, past experience, and proposed work plan. The presentation/interview will consist of a maximum thirty (30) minute presentation followed by forty (40) minutes of questions/answers, and discussion. Audiovisual aids may be used during the interviews, but the consultant is responsible for all materials and equipment. The presentation must be given by the project manager listed in the proposal or the main technical staff listed in the proposal. Both project manager and main technical staff need to be present at the interview for question/answers and discussion.

Scores from the presentation/interview **(up to 20 points)** will be added to the previous proposal scores. The consultant receiving the highest combined score of the proposal and presentation/interview will be awarded the contract.

It is anticipated that presentations/interviews will be held between <u>April 6, 2009 and April 9, 2009,</u> pending department approval of the consultants to be invited. Consultants approved for a presentation/interview will be notified directly by the project manager to finalize the date and time.

Appendix A: Michigan Urban Model Areas

Urban Model Areas
- Small Urban Model Area
- TMA Model Area
- County Boundary
- Interstate & Freeway
- Principal Arterial

Bay/Midland/Saginaw Model

Flint Model - TMA

SEMCOG Model - TMA

Ann Arbor Model - TMA (Also part of SEMCOG)

Lansing Model - TMA

Jackson Model

Battle Creek Model

Grand Rapids Model - TMA

Kalamazoo Model

Muskegon Model

Holland Model

Niles Model

Benton Harbor/ St. Joseph Model

SANILAC, HURON, TUSCOLA, ST. CLAIR, MACOMB, LAPEER, GENESEE, SAGINAW, BAY, MIDLAND, GLADWIN, ISABELLA, CLARE, SHIAWASSEE, OAKLAND, WAYNE, MONROE, LIVINGSTON, WASHTENAW, LENAWEE, GRATIOT, CLINTON, INGHAM, EATON, JACKSON, HILLSDALE, IONIA, BARRY, CALHOUN, BRANCH, MONTCALM, MECOSTA, OSCEOLA, NEWAYGO, KENT, ALLEGAN, VAN BUREN, KALAMAZOO, ST. JOSEPH, CASS, BERRIEN, OCEANA, MUSKEGON, OTTAWA, MASON, LAKE

Appendix B: Michigan Household Travel Survey Sample Area

Sample Areas

- ▨ SEMCOG
- ▧ Transportation Management Areas
- ▨ Small Urban Models
- ■ Small Cities
- ☐ Southern Lower Peninsula Rural
- ☐ Northern Lower Peninsula Rural
- ☐ Upper Peninsula Rural
- ☐ County Boundary
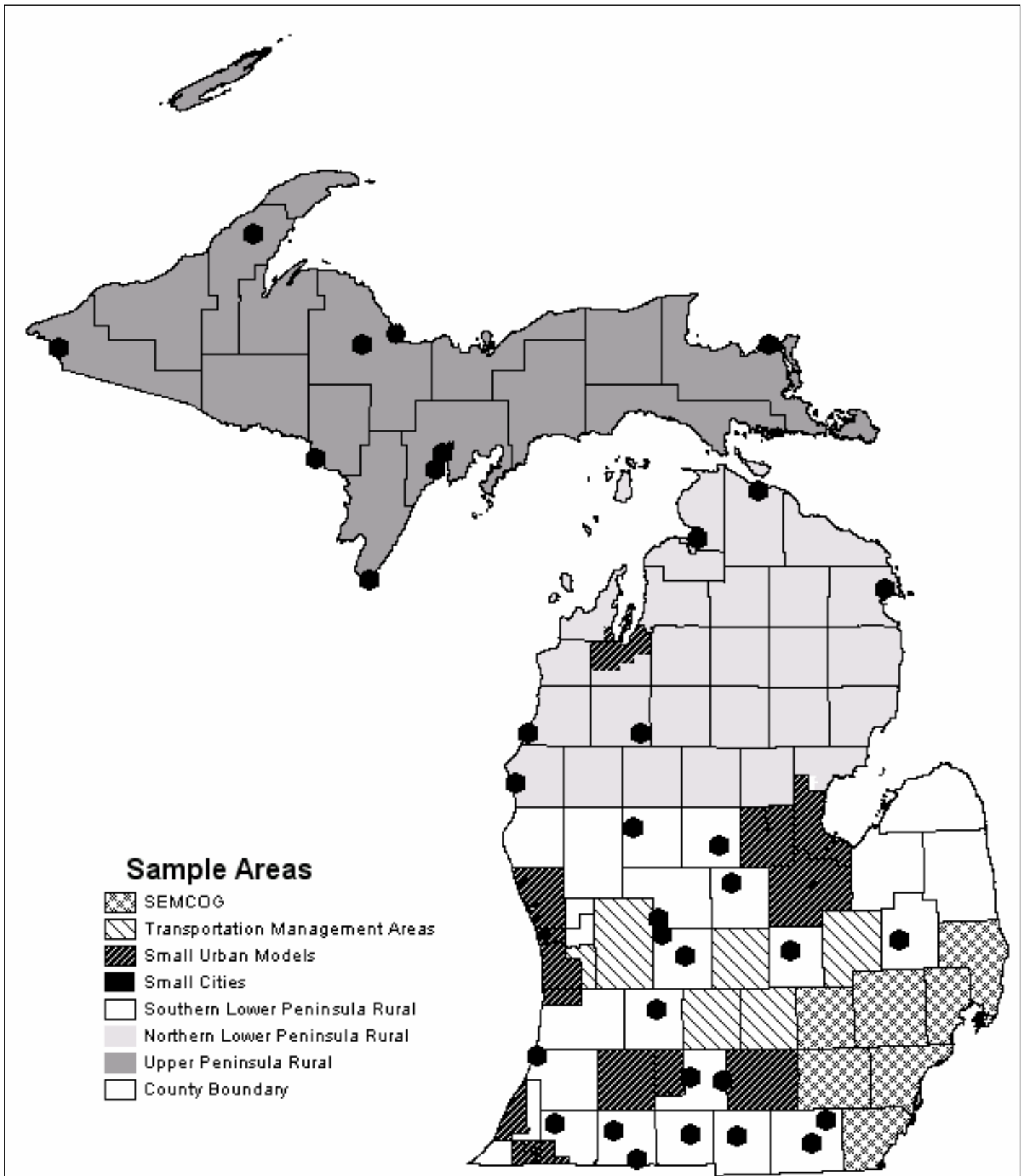
DERIVATION OF COST PROPOSAL
Urban Model Improvement Program (UMIP)
Task 1

CONSULTANT NAME
FEDERAL ID #

DIRECT LABOR:

Individual Employee Classification	Person Hours	x	Hourly Rate	=	Labor Costs

Total Hours   _____   Total Labor $ _____

TOTAL OTHER COSTS: $ _____
(include overhead, direct expenses, and fixed fee .
A breakdown of individual costs for these categories is not necessary at this time)

SUBCONSULTANT FEES   Total Subconsultant Cost $ _____

      TOTAL PROPOSED TASK 1 COSTS $_____

DERIVATION OF COST PROPOSAL
Urban Model Improvement Program (UMIP)
Task 2

CONSULTANT NAME
FEDERAL ID #

DIRECT LABOR:

Individual Employee Classification	Person Hours	x	Hourly Rate	=	Labor Costs

Total Hours   _____   Total Labor $ _____

TOTAL OTHER COSTS: $ _____
(include overhead, direct expenses, and fixed fee .
A breakdown of individual costs for these categories is not necessary at this time)

SUBCONSULTANT FEES   Total Subconsultant Cost $ _____

TOTAL PROPOSED TASK 2 COSTS $_____

DERIVATION OF COST PROPOSAL
Urban Model Improvement Program (UMIP)
Task 3

CONSULTANT NAME
FEDERAL ID #

DIRECT LABOR:

Individual Employee Classification	Person Hours	x	Hourly Rate	=	Labor Costs

Total Hours _____   Total Labor $ _____

TOTAL OTHER COSTS: $ _____
(include overhead, direct expenses, and fixed fee .
A breakdown of individual costs for these categories is not necessary at this time)

SUBCONSULTANT FEES   Total Subconsultant Cost $ _____

TOTAL PROPOSED TASK 3 COSTS $ _____

DERIVATION OF COST PROPOSAL
Urban Model Improvement Program (UMIP)
Task 4

CONSULTANT NAME
FEDERAL ID #

DIRECT LABOR:

Individual Employee Classification	Person Hours	x	Hourly Rate	=	Labor Costs

Total Hours _____   Total Labor $ _____

TOTAL OTHER COSTS: $ _____
(include overhead, direct expenses, and fixed fee .
A breakdown of individual costs for these categories is not necessary at this time)

SUBCONSULTANT FEES   Total Subconsultant Cost $ _____

TOTAL PROPOSED TASK 4 COSTS $_____

DERIVATION OF COST PROPOSAL
Urban Model Improvement Program (UMIP)
Task 5

CONSULTANT NAME
FEDERAL ID #

DIRECT LABOR:

Individual Employee Classification	Person Hours	x	Hourly Rate	=	Labor Costs

Total Hours _____   Total Labor $ _____

TOTAL OTHER COSTS: $ _____
(include overhead, direct expenses, and fixed fee .
A breakdown of individual costs for these categories is not necessary at this time)

SUBCONSULTANT FEES   Total Subconsultant Cost $ _____

TOTAL PROPOSED TASK 5 COSTS $_____

DERIVATION OF COST PROPOSAL
Urban Model Improvement Program (UMIP)
Task 6

CONSULTANT NAME
FEDERAL ID #

DIRECT LABOR:

Individual Employee Classification	Person Hours	x	Hourly Rate	=	Labor Costs

Total Hours _____   Total Labor $ _____

TOTAL OTHER COSTS: $ _____
(include overhead, direct expenses, and fixed fee .
A breakdown of individual costs for these categories is not necessary at this time)

SUBCONSULTANT FEES   Total Subconsultant Cost $ _____

TOTAL PROPOSED TASK 6 COSTS $_____

DERIVATION OF COST PROPOSAL
Urban Model Improvement Program (UMIP)
Task 7

CONSULTANT NAME
FEDERAL ID #

DIRECT LABOR:

Individual Employee Classification	Person Hours	x	Hourly Rate	=	Labor Costs

Total Hours _____   Total Labor $ _____

TOTAL OTHER COSTS: $ _____
(include overhead, direct expenses, and fixed fee .
A breakdown of individual costs for these categories is not necessary at this time)

SUBCONSULTANT FEES   Total Subconsultant Cost $ _____

TOTAL PROPOSED TASK 7 COSTS $_____

DERIVATION OF COST PROPOSAL
Urban Model Improvement Program (UMIP)
Task 8

CONSULTANT NAME
FEDERAL ID #

DIRECT LABOR:

Individual Employee Classification	Person Hours	x	Hourly Rate	=	Labor Costs

Total Hours _____   Total Labor $ _____

TOTAL OTHER COSTS: $ _____
(include overhead, direct expenses, and fixed fee .
A breakdown of individual costs for these categories is not necessary at this time)

SUBCONSULTANT FEES   Total Subconsultant Cost $ _____

TOTAL PROPOSED TASK 8 COSTS   **$_____**

DERIVATION OF COST PROPOSAL
Urban Model Improvement Program (UMIP)
Task 9

CONSULTANT NAME
FEDERAL ID #

DIRECT LABOR:

Individual Employee Classification	Person Hours	x	Hourly Rate	=	Labor Costs

Total Hours _____   Total Labor $ _____

TOTAL OTHER COSTS: $ _____
(include overhead, direct expenses, and fixed fee .
A breakdown of individual costs for these categories is not necessary at this time)

SUBCONSULTANT FEES   Total Subconsultant Cost $ _____

TOTAL PROPOSED TASK 9 COSTS $ _____

DERIVATION OF COST PROPOSAL
Urban Model Improvement Program (UMIP)
Task 10

CONSULTANT NAME
FEDERAL ID #

DIRECT LABOR:

Individual Employee Classification	Person Hours	x	Hourly Rate	=	Labor Costs

Total Hours _____   Total Labor $ _____

TOTAL OTHER COSTS: $ _____
(include overhead, direct expenses, and fixed fee .
A breakdown of individual costs for these categories is not necessary at this time)

SUBCONSULTANT FEES   Total Subconsultant Cost $ _____

TOTAL PROPOSED TASK 10 COSTS $_____

DERIVATION OF COST PROPOSAL
Urban Model Improvement Program (UMIP)
Task 11

CONSULTANT NAME
FEDERAL ID #

DIRECT LABOR:

Individual Employee Classification	Person Hours	x	Hourly Rate	=	Labor Costs

Total Hours _____   Total Labor $ _____

TOTAL OTHER COSTS: $ _____
(include overhead, direct expenses, and fixed fee .
A breakdown of individual costs for these categories is not necessary at this time)

SUBCONSULTANT FEES   Total Subconsultant Cost $ _____

TOTAL PROPOSED TASK 11 COSTS $_____

DERIVATION OF COST PROPOSAL
Urban Model Improvement Program (UMIP)
Task 12
CONSULTANT NAME
FEDERAL ID #

DIRECT LABOR:

Individual Employee Classification	Person Hours	x	Hourly Rate	=	Labor Costs

Total Hours _____   Total Labor $ _____

TOTAL OTHER COSTS: $ _____

(include overhead, direct expenses, and fixed fee .
A breakdown of individual costs for these categories is not necessary at this time)

SUBCONSULTANT FEES   Total Subconsultant Cost $ _____

TOTAL PROPOSED TASK 12 COSTS   **$_____**

DERIVATION OF COST PROPOSAL
Urban Model Improvement Program (UMIP)
Task 13

CONSULTANT NAME
FEDERAL ID #

DIRECT LABOR:

Individual Employee Classification	Person Hours	x	Hourly Rate	=	Labor Costs

Total Hours _____   Total Labor $ _____

TOTAL OTHER COSTS: $ _____
(include overhead, direct expenses, and fixed fee .
A breakdown of individual costs for these categories is not necessary at this time)

SUBCONSULTANT FEES   Total Subconsultant Cost $ _____
(submit a separate derivation of cost for each subconsultant listed)

TOTAL PROPOSED TASK 13 COSTS $ _____

DERIVATION OF COST PROPOSAL
Urban Model Improvement Program (UMIP)
Task 14

CONSULTANT NAME
FEDERAL ID #

DIRECT LABOR:

Individual Employee Classification	Person Hours	x	Hourly Rate	=	Labor Costs

Total Hours   _____   Total Labor $ _____

TOTAL OTHER COSTS: $ _____
(include overhead, direct expenses, and fixed fee .
A breakdown of individual costs for these categories is not necessary at this time)

SUBCONSULTANT FEES   Total Subconsultant Cost $ _____
(submit a separate derivation of cost for each subconsultant listed)

TOTAL PROPOSED TASK 13 COSTS $_____

DERIVATION OF COST PROPOSAL
SUMMARY
Urban Model Improvement Program (UMIP)
Task 1 - 14
CONSULTANT NAME FEDERAL ID #

TASK 1 TOTAL PROPOSED COSTS $_____

TASK 2 TOTAL PROPOSED COSTS $_____

TASK 3 TOTAL PROPOSED COSTS $_____

TASK 4 TOTAL PROPOSED COSTS $_____

TASK 5 TOTAL PROPOSED COSTS $_____

TASK 6 TOTAL PROPOSED COSTS $_____

TASK 7 TOTAL PROPOSED COSTS $_____

TASK 8 TOTAL PROPOSED COSTS $_____

TASK 9 TOTAL PROPOSED COSTS $_____

TASK 10 TOTAL PROPOSED COSTS $_____

TASK 11 TOTAL PROPOSED COSTS $_____

TASK 12 TOTAL PROPOSED COSTS $_____

TASK 13 TOTAL PROPOSED COSTS $_____

TASK 14 TOTAL PROPOSED COSTS $_____

    GRAND TOTAL PROPOSED COSTS $_____

(This amount will be used to score price)